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ABSTRACT

A survey of state financial controls over community, junior, and technical colleges was undertaken utilizing, as the base, Frederick Volkwein's scale of flexibility and control. A mailed survey (about 29 measures of state regulation) with followup telephone interviews was presented to all community college state agency directors (N=62). Identification of state regulatory types was determined through the use of cluster analysis. Factor analysis identified six underling constructs (budgeting flexibility, budget form, expenditure oversight, tuition and revenue control, local authority, and personnel administration). Results indicated that the fiscal and personnel regulatory measures identified by Volkwein can be successfully applied with some modification for an analysis of two-year colleges. The data provided evidence to generalize the use of these measures to two-year colleges. The six constructs of financial and personnel regulation identified verify key elements suggested in the conceptual framework of Curry and Fischer. The findings provide empirical support for differentiating state systems of two-year colleges on a continuum of financial and personnel regulation as suggested by both Curry and Fischer and by Walter Garms. Findings also prove that the stronger regulated models can be differentiated among themselves on the basis of the degree and type of personnel and financial controls. Tables are included. Contains 16 references. (SM)

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# FINANCIAL GOVERNANCE PATTERNS AMONG TWO YEAR COLLEGES

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# FINANCIAL GOVERNANCE PATTERNS AMONG TWO YEAR COLLEGES

Governance literature in higher education has evolved through a series of methodological phases. The initial phase focused upon the state organizational structure (Glenny 1959; Berdahl 1971). During the second phase, however, the analyses have shifted to reviewing patterns of regulatory control, rather than first considering structure (Mingle 1983; Volkwein 1985).

Curry and Fischer (1986) have suggested that analyses based on "financial governance" rather than "structural governance" offer considerable promise in clarifying the relationship between the campus and the state. Whether "financial governance" analysis will have broad future application remains unsettled, dependent on demonstration through adequate empirical research.

## GOVERNANCE LITERATURE

The growth of higher education during the 1960's led to changing relationships between state government and local campuses. The literature frequently sought to both describe, and prescribe, this relationship.

A review of the reports of the Carnegie Commission on Higher Education (1973), the Carnegie Council on Policy Studies in Higher Education (1976), the Carnegie Foundation for the Advancement of Teaching (1982) and others (Gruson 1979), clearly demonstrates that the general prescription for all levels of

higher education calls for institutional autonomy from state controls. For the newest higher education form, the community college, the focus on institutional autonomy has also been coupled with a concern over the impact of state control on local community orientation (Martorana and Wattenbarger 1978).

Initially studies (Glenny 1959; Berdahl 1971) advocated the state coordinating agency as the desirable state organizational structure and launched the use of a structural approach as the conceptual framework for governance analysis.

Over time, however, difficulties have arisen in the reliance on structural analysis. While coordinating agencies, as an alternative to state-wide governing boards, have continued to be the preferred "prescription" for state-institutional relations, the distinctions have became less than clear between these agencies. Glenny (1976, 74) suggested that "the stronger coordinating boards have tended to acquire some of the traditional powers of governing boards."

The analysis of state controls, in the form of financial regulations, has been a growing alternative in the literature. Such governance studies are derived from the body of literature involving both economic regulation of the private sector and the regulation of the government sector to assure public accountability (Haberaecker 1987; Thompson and Zumeta 1981).

A frequent methodology adopted to apply regulatory analysis has been the case study (Mingle 1983; Hyatt and Santiago 1984). Rather than initially considering structure, financial governance

analyses center on patterns of regulatory control. Recently, however, the literature has begun to provide increasingly sophisticated approaches to analyze the regulatory environment of state higher education systems. Three such designs were especially significant in the development of this research effort. These were contributed by J. Fredericks Volkwein (1985) and Curry and Fischer (1986) along with a precursor study by Walter Garms (1977).

Volkwein's study represented the first empirical analysis of financial governance patterns. Volkwein developed a 16-item scale to differentiate state regulatory environments for research universities along a unsegmented continuum of flexibility and control of financial and personnel regulation measures.

While Volkwein grouped states by "high," "medium" and "low" regulatory environments, his research did not attempt to suggest that specific regulatory "types" existed with regulation patterns as defining characteristics. Such a framework was advanced, however, by Curry and Fischer (1986) who developed a taxonomy of four "types" ranging from the most regulated economic model to the least regulated. These included: the 1) "state agency," 2) "state controlled", 3) "state-aided" and 4) "free market" models. Curry and Fischer's framework is characterized by strong operational definitions for each type based on specific levels of application of eight regulatory measures. The measures were: 1) Budgeting, 2) Expenditure Oversight, 3) Accountability, 4) Tuition and Fees, 5) Financing Options, 6) Salary

Administration, 7) Enrollment Policy and 8) Program Review.

The Curry and Fisher typology presented a new approach to conceptualizing governance. While structures of state governance are suggested, they represent specific patterns of regulation. Financial governance structures are derived by first focusing on regulation patterns. While the typology has had the potential for broader application, the framework had not been tested through any empirical research until this study.

In a work that represents a precursor of the efforts of Denis Curry, Walter Garms (1977) developed the first state regulatory taxonomy, almost a decade earlier, differentiating community colleges systems based upon "planned" versus "market" economic principles. His continuum of types identified two planned economy model types,"centralized control" and "decentralized control," and several "mixed model" types characterized by the existence of a financial and control partnership between the state and local institutions.

Both the governance models and the regulatory and budgetary definitions suggested by Garms paralleled closely the types and measures conceptualized by Curry and Fischer.

The application of topologies to state systems of community colleges, as suggested by both the Curry and Fischer typology and the Garms models, were tested through the results of this study. In addition Volkwein's concept of continuum of regulation measured by a summary regulation factor scale is tested for generalization to the community college level.

## METHODOLOGY

A survey of state financial controls over community, junior and technical colleges was undertaken utilizing, as the base, Frederick Volkwein's scale of flexibility and control. Questions were adapted from Volkwein, and modified for application for two-year college environments. Additional questions were drawn from the Denis Curry checklist and the literature of state regulation. A mailed survey with follow-up phone interviews was undertaken of all community college state agency directors. The survey was mailed twice with a three week interval. A 100% response was achieved detailing regulatory practices including the nature and intensity of use of various regulatory measures. Sixty-two state system of two-year colleges were identified, since several states had multiple systems.

Twenty-nine measures of state regulation were included in the survey. Each state response was scored for every item, ranging on a scale of high (10) to low (0) regulation.

Through factor analysis the study identified underlying regulatory constructs contained in factor scales. An aggregated scale score was created for each state on each factor construct. A single, summary state regulation score was also developed only following a second round of factor analysis due to data limitations caused by 29 original variables with only 62 cases.

The final regulatory constructs were developed by alternative trial and error combinations, testing particularly,

the conceptual framework of regulatory categories of Curry and Fischer. The final combinations included in the regulatory constructs represented the least number of underlying factors meeting the Kaiser criterion eigenvalue of 1.00. That is to say, other alternative combinations identified a greater number of regulatory constructs.

The second round of factor analysis was based on weighted mean scores from the derived factors and was used only to test the existence of a single overall regulatory factor as suggested by Volkwein.

The identification of state regulatory "types" was determined through the use of cluster analysis. The analysis of state regulatory types started with the mean scores for each of 62 state systems on the identified underlying regulatory constructs. Cluster Analysis was used to find "similar" groupings of state systems based upon the score of the construct regulatory variables. The analysis utilized and contrasted two methods of clustering, "Average linkage" method and the "Ward's minimum within-group variability method" in determining the appropriate number of cluster "types."

## RESULTS

Factor analysis identified six underlying constructs, involving twenty-six of the original twenty-nine variables. The construct variables developed through factor analysis, were: 1)

Budgeting Flexibility, 2) Budget Form, 3) Expenditure Oversight, 4) Tuition and Revenue Control, 5) Local Authority, 6) Personnel Administration. Table 1 details the results of the six factor analyses including the variance accounted for by each of the factors and the underlying regulatory measures.

The 62 separate state systems were ranked, Table 2, on each of these six measures. Moreover, a composite index of financial regulation was developed for each state. Clustering analysis supported the existence of seven regulatory types including three major types and four minor variants. Table 3 provides the regulatory scores for each of the three major regulatory types. The allocation of the state systems to each of the seven clusters is outlined in Table 4.

Three major regulatory types can be distinguished from the Cluster Analysis containing forty-six of the sixty-two systems. STRONG DIRECT CONTROL, Type A, had 18 systems. STRONG INDIRECT CONTROL, Type B, had 12 systems. These two groupings of states represented the "strong state regulation" types. LOW REGULATION, Type C, had 16 systems and represented the only major "low" state regulation type.

The overall regulation scores of both the "strong" regulation types, STRONG DIRECT CONTROL and STRONG INDIRECT CONTROL, differed significantly from LOW REGULATION, Type C. Moreover, these same two "strong" regulation types were found to have regulatory scores significantly greater than the mean on the

## TABLE 1

### REGULATORY CONTROL CONSTRUCTS
### RESULTS OF FACTOR ANALYSIS

| IDENTIFIED FACTORS AND DEFINING VARIABLES | | RELATED CURRY AND FISCHER CATEGORIES |
|---|---|---|
| Factor #1--BUDGETING FLEXIBILITY | Load | |
| Standard State Budget Instructions | .72 | Budgeting |
| Changing Expenditures after Budget Approval | .60 | Budgeting |
| Year End Balance Use | .51 | Expenditure Oversight |
| (variance explained 58.2%) | | |
| Factor #2--BUDGET FORM | Load | |
| Nature of Budget | .72 | Budgeting |
| Use of Category Funding | .72 | not included by authors |
| (variance explained 76.3%) | | |
| Factor #3--EXPENDITURE OVERSIGHT | Load | |
| Pre-audit of Expenses | .92 | Expenditure Oversight |
| Check Issuing Authority | .81 | not included by authors |
| Budgetary Detailing - Positions | .80 | Budgeting |
| Budgetary Detailing - Dollars | .74 | Budgeting |
| Travel Controls | .73 | Expenditure Oversight |
| (variance explained 71.0%) | | |
| Factor #4--TUITION AND REVENUE CONTROL | Load | |
| Tuition Setting Authority | .73 | Tuition and Fees |
| Tuition Revenue Control | .66 | Tuition and Fees |
| Auxiliary Revenue Control | .49 | Tuition and Fee |
| (variance explained 59.2%) | | |
| Factor #5--LOCAL AUTHORITY | Load | |
| Local Bd. Budget Approval | .89 | not included by authors |
| Selection of Local Board | .84 | not included by authors |
| Taxing Authority | .79 | Local Financing Authority |
| Hiring of President | .69 | not included by authors |
| Capital Authority | .58 | Local Financing Authority |
| State v. Local Share of Financing | .57 | Local Financing Authority |
| (variance explained 61.1%) | | |
| Factor #6--PERSONNEL ADMINSTRATION | Load | |
| Position Control all Positions | .86 | not included by authors |
| Faculty Position Control | .85 | not included by authors |
| Non-Faculty Salaries | .82 | Salary Administration |
| Non-Faculty System of Classification | .80 | Salary Administration |
| Non-Faculty Position Control | .86 | not included by authors |
| Faculty Classification System | .78 | Salary Administration |
| Faculty Salary Setting | .75 | Salary Administration |
| (variance explained 71%) | | |

## TABLE 2

## STATE REGULATORY INDEXES*
## RANKED BY OVERALL INDEX

| | REGULATION OVERALL** | BUDGET FLEXIBILITY | BUDGET FORMULA | EXPENDITURE OVERSIGHT | TUITION & REV. CONTROL | LOCAL AUTHORITY | PERSONNEL CONTROL |
|---|---|---|---|---|---|---|---|
| NEW HAMPSHIRE | 10.44 | 8.33 H | 10.00 H | 9.33 H | 6.11 H | 6.67 H | 10.00 H |
| RHODE ISLAND | 9.12 | 5.00 H | 10.00 H | 6.83 H | 5.55 H | 6.23 M | 10.00 H |
| CONNECTICUT-T | 8.80 | 8.33 H | 8.33 M | 8.50 H | 3.89 M | 9.03 H | 6.43 H |
| HAWAII | 8.75 | 6.67 H | 10.00 H | 4.33 H | 8.89 H | 5.29 M | 7.86 H |
| DELAWARE | 8.36 | 9.17 H | 10.00 H | 5.50 H | 3.89 M | 7.41 H | 7.14 H |
| W VIRGINIA-UCC | 8.22 | 8.33 H | 10.00 H | 6.83 H | 4.44 H | 8.39 H | 5.00 H |
| W VIRGINIA-CC | 8.05 | 8.33 H | 10.00 H | 6.83 H | 4.44 H | 7.28 H | 5.00 H |
| MASSACHUSETTS | 7.38 | 3.33 H | 10.00 H | 7.33 H | 7.78 H | 3.33 M | 4.29 H |
| CONNECTICUT-CC | 7.38 | 5.83 H | 3.33 L | 8.33 H | 3.89 M | 8.47 H | 5.71 H |
| ALASKA | 7.21 | 5.00 H | 10.00 H | 4.50 H | 3.89 M | 5.69 M | 7.14 H |
| VIRGINIA | 7.16 | 6.67 H | 10.00 H | 4.33 H | 3.89 M | 6.71 H | 5.71 H |
| OKLAHOMA-UCC | 6.96 | .00 L | 8.33 M | 10.00 H | 6.67 H | 8.00 H | 1.43 M |
| SOUTH CAROLINA | 6.67 | 8.33 H | 3.33 L | 4.17 M | 1.11 M | 4.46 M | 10.00 H |
| OKLAHOMA-NOTAX | 6.60 | .00 L | 8.33 M | 10.00 H | 6.67 H | 5.78 M | 1.43 M |
| MINNESOTA | 6.57 | .00 L | 3.33 L | 7.33 H | 5.00 H | 8.29 H | 5.95 H |
| NORTH DAKOTA | 6.51 | 5.00 H | 10.00 H | 1.50 M | 6.66 H | 7.11 H | 4.28 H |
| OKLAHOMA-LTAX | 6.32 | .00 L | 8.33 M | 10.00 H | 6.67 H | 3.99 M | 1.43 M |
| VERMONT | 5.75 | 1.67 M | 10.00 H | 4.67 H | 3.89 M | 7.25 H | 2.86 M |
| ARKANSAS-CC | 5.52 | .83 M | 3.33 L | 5.16 H | 1.11 M | 7.95 H | 7.14 H |
| WASHINGTON | 5.42 | 6.67 H | 3.33 L | 1.50 M | 7.78 H | 4.74 M | 3.33 H |
| INDIANA-IVTC | 5.25 | 1.67 M | 10.00 H | 3.16 M | 2.78 M | 5.51 M | 4.28 H |
| NORTH CAROLINA | 5.04 | 9.17 H | 6.67 M | 2.00 M | 6.67 H | 4.09 M | .00 L |
| MAINE | 4.94 | .83 M | 10.00 H | 1.33 M | 5.00 H | 3.89 M | 4.28 H |
| ALABAMA | 4.93 | 3.33 H | 3.33 L | 1.50 M | 3.33 M | 8.29 H | 5.00 H |
| KENTUCKY | 4.71 | .00 L | 3.33 L | 4.17 M | 6.11 H | 5.69 M | 2.86 M |
| TENNESSEE-CC | 4.65 | .83 M | 3.33 L | 5.67 H | 2.22 M | 7.95 H | 2.86 M |
| TENNESSEE-TECH | 4.65 | .83 M | 3.33 L | 5.67 H | 2.22 M | 7.95 H | 2.86 M |
| ARKANSAS-UCC | 4.54 | .83 M | 3.33 L | 5.16 H | 1.11 M | 1.84 L | 7.14 H |
| UTAH | 4.36 | 1.67 M | 10.00 H | 1.00 M | 5.55 H | 7.07 H | .00 L |
| NEVADA | 4.36 | 3.33 H | 3.33 L | 3.17 M | 5.55 H | 8.02 H | .00 L |
| NEW YORK-CUNY | 4.35 | 3.33 H | 1.67 L | 2.17 M | 5.00 H | 3.95 M | 4.28 H |
| WYOMING | 3.38 | 5.00 H | 10.00 H | .00 L | 3.33 M | 2.73 L | .00 L |
| GEORGIA | 3.22 | 3.33 H | 5.00 M | .50 L | 2.22 M | 8.52 H | .00 L |
| LOUISIANA-CC | 3.20 | 1.67 M | 8.33 M | .00 L | 2.22 M | 7.82 H | .00 L |
| LOUISIANA-UCC | 3.20 | 1.67 M | 8.33 M | .00 L | 2.22 M | 7.82 H | .00 L |
| COLORADO-ST | 3.03 | .00 L | 3.33 L | .50 L | 2.22 M | 6.67 H | 2.86 M |
| NEW MEXICO-UCC | 2.77 | .00 L | 3.33 L | 2.50 M | 2.78 M | 6.37 M | .00 L |
| INDIANA-VINC | 2.49 | 1.67 M | 10.00 H | .50 L | .00 L | 4.40 M | .00 L |
| NEW JERSEY | 2.47 | 1.67 M | 8.33 M | 1.00 M | 1.11 M | 3.34 M | .00 L |
| KANSAS | 2.39 | 5.83 H | 6.67 M | 1.00 M | 1.11 M | .43 L | .00 L |
| FLORIDA | 2.39 | .83 M | 10.00 H | .50 L | 1.11 M | 2.90 L | .00 L |
| IDAHO | 2.19 | 3.33 H | 10.00 H | .00 L | .00 L | 1.76 L | .00 L |
| WISCONSIN | 1.85 | 3.33 H | 1.67 L | .00 L | 3.33 M | 2.03 L | .00 L |
| CALIFORNIA | 1.84 | .00 L | 1.67 L | 1.17 M | 3.33 M | 3.25 M | .00 L |

| | REGULATION OVERALL** | BUDGET FLEXIBILITY | BUDGET FORMULA | EXPENDITURE OVERSIGHT | TUITION & REV. CONTROL | LOCAL AUTHORITY | PERSONNEL CONTROL |
|---|---|---|---|---|---|---|---|
| TEXAS | 1.83 | 3.33 H | 8.33 M | .00 L | .00 L | 1.02 L | .00 L |
| NEW MEXICO-CC | 1.81 | .00 L | 3.33 L | 2.50 M | 1.67 M | 2.01 L | .00 L |
| OHIO-UCC | 1.73 | .00 L | 3.33 L | .00 L | .00 L | 5.26 M | 1.43 M |
| MISSISSIPPI | 1.60 | .00 L | 8.33 M | .50 L | .00 L | 1.86 L | .00 L |
| ARIZONA | 1.49 | .00 L | 1.67 L | .50 L | 3.33 M | 2.08 L | .00 L |
| PENNSYLVANIA | 1.32 | 3.33 H | .00 L | 1.50 M | .00 L | 2.84 L | .00 L |
| OHIO-TECH | 1.29 | .00 L | 3.33 L | .00 L | .00 L | 2.48 L | 1.43 M |
| OHIO-CC | 1.26 | .00 L | 3.33 L | .00 L | .00 L | 2.30 L | 1.43 M |
| IOWA | 1.21 | 1.67 M | 3.33 L | .00 L | .00 L | 3.07 M | .00 L |
| MONTANA | 1.16 | 2.50 M | 1.67 L | .00 L | 1.11 M | 1.82 L | .00 L |
| NEW YORK-SUNY | 1.12 | .00 L | 1.67 L | .67 M | .00 L | 4.50 M | .00 L |
| NEBRASKA | .99 | 1.67 M | 3.33 L | .00 L | .00 L | 1.72 L | .00 L |
| MARYLAND | .89 | .83 M | 1.67 L | .00 L | .00 L | 3.34 M | .00 L |
| ILLINOIS | .83 | .00 L | 3.33 L | .50 L | .00 L | .62 L | .48 M |
| MISSOURI | .82 | 1.67 M | 3.33 L | .00 L | .00 L | .66 L | .00 L |
| MICHIGAN | .58 | .00 L | 3.33 L | .00 L | .00 L | .68 L | .00 L |
| OREGON | .45 | .00 L | 1.67 L | .50 L | .00 L | .58 L | .00 L |
| COLORADO-L | .34 | .00 L | 1.67 L | .00 L | .00 L | .65 L | .00 L |

* High (H), Medium (M), Low (L) determined separately for each index on basis on mean score of institutions in each state. High (H) is top 1/3, Medium (M) middle 1/3, and Low (L), the bottom third.

** The overall index of regulation for each state was created by multiplying the standard score for each of the six means of the sub-scales of regulation by the factor score of the overall regulatory factor and then by aggregating these scores for each state system.

## TABLE 3

## REGULATORY CLUSTER TYPES
## REGULATION SCORES

| CLUSTER TYPE | n | Overall Reg Score | Budget Flexibility | Budget Form | Expenditure Oversight | Tuition/ Revenue | Local Authority | Personnel Administr. |
|---|---|---|---|---|---|---|---|---|
| A | 18 | 6.00 | 3.66 | 5.92 | 5.19 | 4.50 | 6.61 | 4.07 |
| B | 12 | 5.35 | 3.96 | 7.36 | 4.28 | 3.56 | 6.60 | 4.25 |
| C | 16 | 1.63* | 1.25 | 3.96 | 0.71* | 0.69* | 2.37* | 0.56* |
| AVERAGE | | 4.09 | 2.69 | 5.83 | 2.84 | 2.88 | 4.70 | 2.47 |
| F Prob | | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Boxed score means were found to be significantly different from starred means on the basis of Tukey T a posteriori test. Only significant differences between major cluster types are highlighted on the table.

**TABLE 4**

**STATE SYSTEM REGULATION TYPES**

**Major Cluster Types**

| Type A (18 sys) "Strong" Regulation Direct Control | Type B (12 sys) "Strong" Regulation Indirect Control | Type C (16 sys) "Low" Regulation |
|---|---|---|
| Alaska | Alabama | Colorado L |
| Arkansas CC | Colorado ST | Idaho |
| Arkansas UCC | Florida | Illinois |
| Connecticut CC | Louisiana CC | Maryland |
| Connecticut T | Louisiana UCC | Michigan |
| Delaware | Minnesota | Mississippi |
| Georgia | New Hampshire | Missouri |
| Hawaii | Oklahoma LTAX | Montana |
| Kentucky | South Carolina | Nebraska |
| Nevada | Virginia | New Jersey |
| New Mexico | W Virginia CC | New York CUNY |
| North Carolina | W Virginia UCC | New York SUNY |
| Oklahoma NOTAX | | Ohio CC |
| Oklahoma UCC | | Oregon |
| Rhode Island | | Pennsylvania |
| Tennessee CC | | Vermont |
| Tennessee TECH | | |
| Washington | | |

**Minor Cluster Types**

| "Strong" Regulation Variant (2 sys) | "Low" Regulation Variant (3 sys) |
|---|---|
| Maine | Iowa |
| Massachusetts | Ohio TECH |
| | Ohio UCC |

| "Mixed" Regulation Variant (7 sys) | "Low" Regulation Variant (4 sys)" |
|---|---|
| California | Arizona |
| Indiana IVTC | Kansas |
| Indiana VINC | New Mexico CC |
| North Dakota | Wisconsin |
| Texas | |
| Utah | |
| Wyoming | |

measures of Expenditure Oversight, Revenue Control, Local Authority and Personnel Administration Controls. The "low" regulation scores were below the mean on these same measures.

## DISCUSSION

The six constructs of regulation identified through this study confirm key elements suggested in the conceptual framework of Curry and Fischer (1986). While these writers suggested the existence of five comparable regulatory categories, this study found six factors that cover the same regulatory measures. The relationship between the Curry and Fischer original framework and the study results are outlined in Table 1.

Broad factors of PERSONNEL ADMINISTRATION, TUITION AND REVENUE CONTROL and EXPENDITURE OVERSIGHT were established containing variables with close relationship to the Curry and Fischer conceptual work. In several cases additional variables identified in regulation literature were also found to relate to the broad constructs.

Rather than a single budgeting factor, however, the study found two factors, one for BUDGETING FLEXIBILITY and a second for BUDGET FORM. BUDGETING FLEXIBILITY contained regulatory controls involving the ability to change expenditures after the budget approval, whether standard state budget instructions were followed and year end balance control. BUDGET FORM involved the method of budget calculation and in particular, whether 1) the

budget was formula-driven or some alternative and 2) whether categorical funding was used.

Moreover, certain regulatory measure variables relating to degree of budget detail over dollars and personnel were found to be related to EXPENDITURE OVERSIGHT rather than either budget factor. In this case and in several others, factor analysis seemed to group variables by the underlying purpose of the regulatory measure, rather than by a subject area category such as budgeting.

One category of Curry and Fischer, relating to local institutional financing power, was also confirmed through the analysis as a somewhat broader dimension. That is, rather than relating only to financing matters such as local taxing power, a factor was established relating to LOCAL AUTHORITY on issues including presidential hiring and the nature of local board governance in addition to financing. The overall state versus local share of financing local institutions was also contained in this measure. This factor contained variables gathered particularly from the literature of community college regulation and control.

The findings provide empirical support for differentiating state systems of two year colleges on a continuum of financial and personnel regulation as suggested by both Curry and Fischer (1986) and Walter Garms (1977). In fact the study's three major financial regulatory "types" correspond to the three regulatory groupings suggested by both writers. The STRONG DIRECT CONTROL,

Type A, parallels the Curry and Fischer "state agency model" and Garms' "Centralized control-planned economy model." The STRONG INDIRECT CONTROL, Type B, resembles closely the Curry and Fischer "state-controlled type" and the Garms' "Decentralized control-planned economy model." LOW REGULATION, Type C, follows the Curry and Fischer "state-aided" type and the "mixed economic control" model of Garms.

The study also confirmed a major contention made by these writers. The analysis demonstrated that Types A and B, while both exercising strong levels of regulation, can be distinguished among themselves by regulatory techniques. Characteristically, Type A systems were found to utilize direct expenditure controls. By contrast, Type B systems made greater use of budgetary measures than those employed by Type A systems .

A detailed profile for the regulatory cluster types including percentage application of specific levels of representative regulatory techniques is presented in Table 5. Although the differences in regulatory application are not necessarily statistically significant, they provide heuristic description which enhances our understanding of the major regulatory types.

Strong Direct Control (A) systems were characterized by the highest regulatory scores (5.2/10) on Expenditure Oversight among all systems. In fact, twelve out of eighteen systems scored in the highest third of regulatory application of Expenditure Oversight. This included "higher" regulatory applications of pre-auditing practices, and mandatory budgetary detailing of

personnel and dollars than Strong Indirect Control (B) systems. For example, pre-audit of "most purchases," the highest regulatory level, was exercised by 22.2% of Strong Direct Control (A) systems, and only by 8.3% of Strong Indirect Control (B) systems. In fact, 41.7 % of Strong Indirect Control state systems were not subject to any external pre-audit.

Other examples of the more "direct" regulatory techniques for Type A systems can be observed in area of the approach to state budget instructions where Strong Direct Control (A) systems follow standard "state agency" instructions much more often than Strong Indirect (B) systems. In personnel administration, although the overall scores for this measure were high and comparable for both types, Strong Direct Control (A) systems made greater use of position control measures, while Strong Indirect Control (B) states utilized more indirect, salary setting measures.

On the other hand, Strong Direct Control (A) systems had a lower score than Strong Indirect Control (B) systems (5.9/10) versus 7.4/10) for budget calculation approaches. This indicated less frequent use of non-formula budgeting and restrictive budgeting approaches. Instead, there appeared to be greater use of cost-based formula budgeting in twelve out of eighteen systems. By contrast for Strong Indirect Control (B) systems there was a strong use of non-formula budgeting (41.7%).

Considerable state control was exercised over Tuition and Fee setting for both strong regulation types. The authority to set

tuition, for example, was held by either the state or by a "multi-campus system above the individual campuses" in 83% of the situations. Strong Indirect Control (B) systems, however, demonstrated greater flexibility in the institutional retention of tuition and fee dollars. Control of tuition revenue was retained in 66.7% of the Strong Indirect Control (B) systems. By contrast, only 33.3% of the Strong Direct Control (A) systems retained control of tuition revenue.

A relatively high regulation score was found on regulation of the Local Authority measure for both major "strong" types. Elements most influencing this score were the limited local budgetary authority of local boards and the nature of the boards. In many cases where local boards existed, they had only advisory budgetary power. There was also a relatively high percentage of state versus local funding for both strong regulation types.

Sixteen separate systems was classified as a "low" state regulation type, Type C. An extremely low regulatory score characterized the Expenditure Oversight measure. In fact, no systems were subject to Pre-audit of their expenditures and fifteen of sixteen systems did not have positions designated within the budgets. In addition 56.3 % received dollars in a lump sum with an additional 25% receiving dollars with "little detail."

## TABLE 5

### REGULATORY CLUSTER TYPES
### APPLICATION OF REPRESENTATIVE REGULATION TECHNIQUES*

| REGULATION CATEGORY/Regulation Technique | REGULATION TYPES | | |
|---|---|---|---|
| | Strong | | Low |
| | A | B | C |
| 1. BUDGET FLEXIBILITY | % | % | % |
| Flexibility in budget after state allocation | | | |
| lowest level - complete flexibility | 50.0 | 58.3 | 81.3 |
| 2nd lowest level - great flexibility | 27.8 | 8.3 | 12.5 |
| State Budgeting approach for Higher Education | | | |
| highest level-treated as "state agency" | 33.3 | 25.0 | 6.3 |
| 2. BUDGET FORM | | | |
| Nature of funding technique | | | |
| highest level - non-formula | 22.2 | 41.7 | 12.5 |
| 2nd highest level - cost-based formulas | 66.7 | 58.3 | 43.8 |
| 3rd highest level - flat-rate formulas | 5.6 | 0 | 37.5 |
| Use of categorical funding | | | |
| - yes | 50.0 | 66.7 | 25.0 |
| 3. EXPENDITURE OVERSIGHT | | | |
| Pre-audit of purchase by state | | | |
| highest level - most purchases | 22.2 | 8.3 | 0 |
| 2nd highest level - some purchases | 22.2 | 41.7 | 0 |
| lowest level - no purchases | 27.8 | 41.7 | 100.0 |
| Position allocation detail in budget | | | |
| highest level - great detail | 38.9 | 33.3 | 6.3 |
| lowest level - no detail | 27.8 | 50.0 | 93.8 |
| 4. TUITION AND REVENUE CONTROL | | | |
| Tuition setting authority | | | |
| highest level - state sets tuition | 33.3 | 50.0 | 0 |
| 2nd highest level - multi-campus system sets | 50.0 | 33.3 | 12.5 |
| 3rd highest - shared state - local | 16.7 | 16.7 | 12.5 |
| lowest level - local institution sets | 0 | 0 | 75.0 |
| Control of tuition revenue | | | |
| highest level - state controls general fund | 33.3 | 8.3 | 0 |
| 2nd highest level - cc system/multi-campus | 33.3 | 25.0 | 12.5 |
| lowest level - institutional control | 33.3 | 66.7 | 87.5 |

Low regulation of Tuition and Fees (0.7/10.0) was evidenced by local tuition setting authority, 75% of the systems, and retention of local tuition revenue "at the institutional level" in 87.5% of the systems. Very limited regulation was also exercised over Personnel Administration with "complete institutional autonomy" exercised by over 80% of the systems.

High levels of Local Authority (2.4/10.0) were exercised by local institution with local budget authority and local boards of either locally elected trustees (50 %) or locally appointed (43.8%) trustees.

The Low Regulation (C) also differed from both strong regulatory types by having smaller percentages of their overall financing attributable to state dollars. No Low Regulation (C) system was in the highest third of state financed systems. In fact 87.5 % were found in the 33% to 66% range of state financing.

## CONCLUSION

The results from the research found that the fiscal and personnel regulatory measures identified by Volkwein can be successfully applied with some modification for an analysis of two-year colleges. The data, therefore, provided evidence to generalize the use of his measures to two year colleges.

Moreover, the six constructs of financial and personnel regulation identified through this study verify key elements

suggested in the conceptual framework of Curry and Fischer. While these writers suggested the existence of five regulatory categories, this study found six factors that cover the same financial and personnel regulatory measures. Whether the six regulatory categories would apply to sectors of higher education other than two year colleges, however, requires further research.

The findings provide empirical support for differentiating state systems of two year colleges on a continuum of financial and personnel regulation as suggested by both Curry and Fischer and Walter Garms. In fact the study's three major financial regulatory cluster types correspond to three groupings suggested by both writers. The study also confirmed an additional contention made by both, that the stronger regulated models could be differentiated among themselves on the basis of the degree and type of personnel and financial controls. Further research is necessary to confirm whether it is possible to generalize these regulatory types to other sectors of higher education.

The policy debates for two year colleges involving revisions in funding plans and the benefits of financial deregulation should be assisted by the development of six summary measures of financial regulation. Policy makers are provided with summary measures of twenty-six separate financial and personnel control techniques. These constructs should clarify and focus the policy debates in these areas. They represent constructs that can be easily understood by legislators, state agency personnel and others engaged in the debate of these topics.

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